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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/658,272

09/10/2003

Jin-Hee Kim

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EXAMINER

WEINER, LAURA S

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

04/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/658,272	Applicant(s) KIM ET AL.	
	Examiner /Laura S. Weiner/	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-12 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2-26-08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-20 in the reply filed on 8-18-06 is acknowledged. The election of species of additive of Formula (1), (bisphenol A) where R1 and R2 are hydroxyl groups and R3, R4 are methyl groups and a solvent comprising a cyclic carbonate and a linear carbonate is acknowledged. Group II, claim 21 has also been examined. An additive comprising compound Formula (2) has also been examined.

2. Claims 13-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 8-18-06.

Response to Arguments

3. The rejection of claims 1-2, 7-12, 21 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6-13, 26-27, 41 of U.S. Patent No. 7, 223,500 has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of claims 1-2, 7-12, 21 rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. Applicants have put on the record that a non-statutory obviousness-type double

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patenting rejection over Noh et al. (7,223,500) should not be made because there is no common inventive entity, does not have any inventors in common and not commonly assigned. Noh et al. is assigned only to **Samsung SDI Co., LTD** and the application is assigned to **Samsung SDI Co., LTD** and Cheil Industries, Inc. Therefore the issue has been raised to who invented the claimed subject matter.

4. Applicant's arguments filed 3-28-08 have been fully considered but they are not persuasive in regard to the rejection of claims 1-2, 4-12, 21 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/817,761. No terminal disclaimer has been filed in regard to 10/817,761 so the double patenting rejection still stand. There are still issues in the case. Claims 13-20 are withdrawn claims which have not been examined.

Double Patenting

5. Claims 1-2, 4-12, 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/817,761. Although the conflicting claims are not identical, they are not patentably distinct from each other because Application No. 10/817,761 claims in claims 1 and 5, an electrolyte comprising a lithium salt, an organic solvent and an additive compound which initiates decomposition at between 4V and 5V which is selected from a bisphenol A compound. Application No. 10/817,781 claims in claims 6-

9, that the additive compound is used in an amount of 0.01-10 wt%. Application No. 10/817,761 claims in claim 10 that the additive forms a passivation layer on the surface of a positive electrode. Application No. 10/817,761 claims in claims 11-15, the same lithium salts present in the same concentrations and the same organic solvents.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(f) he did not himself invent the subject matter sought to be patented.

7. Claims 1-2, 4-12, 21 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. Noh et al. (7,223,500) teaches on pages 8-9, claims 1, 27 and 28, an electrolyte of a lithium secondary battery comprising lithium salts, an organic solvent and further comprising a swelling-inhibiting additive such as a bisphenol. Noh et al. teaches on page 4, {0056}, that swelling-inhibiting additives include bisphenol, etc. and the like and can be used in an amount of 0.01- 10 wt%, preferably 0.01-6 wt%. Noh et al. teaches on page 8, claims 7-8, that the lithium salt can be LiPF₆, LiBF₄, etc. and can be used in a concentration ranging from 0.6 to 2.0 M. Noh et al. teaches on page 10, claim 43 that the mixed solvent can be GBL/EC/EMC/DMC. Noh et al. teaches on page 1, [0007-0010], that because lithium

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reacts with carbon negative electrode to produce Li_2CO_3 , LiO and LiOH , thus forming a SEI interface. The organic SEI film formed during the initial charge not only prevents the reaction between the lithium ions and the carbon negative electrode during charging and discharging, but also acts an ion tunnel. Noh et al. teaches in claim 1, an electrolyte of a lithium secondary battery comprising lithium salts, a first organic solvent and a carbonate-based additive. Noh et al. teaches in claims 26-27, that the electrolyte further comprises a swelling-inhibiting additive such as bisphenol and in claims 6-7, that the lithium salts are LiPF_6 , LiBF_4 , LiSbF_6 , etc. and are present in a concentration of 0.6-2.0 M. Noh et al. teaches in claims 11-13, that the electrolyte comprises a first organic solvent such as EC and a second solvent comprises methylpropyl carbonate, methylethyl carbonate, etc.

In regard to claim 7, since Noh et al. teaches the same electrolyte comprising a lithium salt, an organic solvent and a bisphenol A additive then inherently the additive forms a passivation layer on the surface of the positive electrode must also be obtained.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Laura S. Weiner/ whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Laura S Weiner/
Primary Examiner
Art Unit 1795

April 22, 2008